



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/728,937	12/08/2003	Kazuyori Yoshimi	243529US0CONT	8992
22850	7590	03/09/2006		
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER EGWIM, KELECHI CHIDI	
			ART UNIT	PAPER NUMBER
			1713	
DATE MAILED: 03/09/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/728,937	Applicant(s) YOSHIMI ET AL.	
	Examiner Dr. Kelechi C. Egwim	Art Unit 1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-25 is/are pending in the application.
- 4a) Of the above claim(s) 18-25 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☒ Certified copies of the priority documents have been received in Application No. 09/715,082.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>120803</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I in the reply filed on 12/28/2005 is acknowledged. The traversal is on the ground(s) that "the examiner has not provided sufficient reason or examples to support patentable distinction," "the office has not shown that a burden exist in searching the entire application," and "all the claim are linked together by sharing a common feature." This is not found persuasive because of reasons already stated in the written restriction. The examiner believes the restriction is proper based on US restriction practice. The search for the non-elected inventions of groups II-IV is not required when searching the elected Group I.

Finally, regarding the alleged "common feature" among the groups, this is NOT a standard for determining patentable distinction in US practice. This is more of an argument for international restriction practice.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1713

3. Claims 1-4, 6, 7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satoh et al. (USPN 4,485,225), Jenkins et al. (USPN 4,649,186) or JP62128754, each independently in combination with Moritani et al. (USPN 5,744,547).

Satoh et al. discloses the preparation of ethylene/vinyl acetate copolymers, with up to 60 mol% ethylene, using a radical initiator which would introduce levels of methoxy groups to the copolymer within amounts such as are present in the saponified ethylene/vinyl acetate resin of the instant claims (e.g., Examples 6-14 and Claims). Saponification of the copolymers in order to make materials useful for food wrapping is also disclosed (col. 4, lines 33-51).

Jenkins et al. discloses the preparation of ethylene/vinyl acetate copolymers, with 20 to 50 mol% ethylene (col. 2, lines 23-39), using a radical initiator, such as 2,2'-azobis(2,4-dimethyl-4-methoxypentanenitrile, which introduces levels of methoxy groups to the copolymer within amounts such as are present in the saponified ethylene/vinyl acetate resin of the instant claims (see col. 3, lines 45-52). The copolymers are taught to be further processed into ethylene/vinyl acetate copolymer (fully saponified) (col. 4, lines 30-34).

In the abstract, JP62128754 teaches preparing products from 95% or more saponified ethylene/vinyl acetate copolymers, with 20 to 60 mol% ethylene and 0.5 to 5% of a component with an OR₂ moiety representative of methoxy groups.

While, satoh et al., Jenkins et al. or JP62128754 may be deficient in not teaching the incorporation of sorbic acid in the saponified ethylene/vinyl acetate copolymers, Moritani et al. discloses that saponified ethylene/vinyl acetate copolymers tend to

Art Unit: 1713

cause, on molding, the problems of coloring and generation of gel-like agglomerates (col. 1, lines 31-35). This problem is improved by the incorporation of 0.000001 to 1 wt.% of a conjugated polyene having a b.p. of at least 20°C (col. 2, lines 17-38, col. 5, lines 19-22).

Further, examples 3, 9, 11 and 13 of Moritani et al. exemplify the inclusion of sorbic acid, the preferred carboxyl having polyenes, in saponified ethylene/vinyl acetate resin compositions within the limits of the instant claims (col. 3, lines 1-38).

Therefore, it would have been obvious to one of ordinary skill in the art to include sorbic acid in the amounts taught or exemplified by Moritani, in the saponified ethylene/vinyl acetate copolymers taught by Satoh et al., Jenkins et al. or JP62128754, in order to decrease the coloring and generation of gel-like particles on molding, motivated by a reasonable expectation of success.

4. Claims 1-4, 6, 7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moritani et al. in view of Satoh et al.

Moritani et al, above, which also teaches a degree of saponification exemplified in excess of 98 mole % and an ethylene content of preferably 10 to 50 mole % (col. 6, lines 62-63), is deficient in not teaching the use of saponified ethylene/vinyl acetate polymers having methoxy groups present. However, as disclosed by Satoh, the radical initiator, 2,2'-azobis(4- methoxy)-2,4-dimethylvaleronitrile is especially effective in the copolymerization of vinyl acetate and ethylene without causing gel-formation in the continuous operation (col. 1, lines 47-65).

Art Unit: 1713

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to use 2,2'-azobis(4-methoxy)-2,4-dimethylvaleronitrile as the radical initiator and thereby include methoxy moiety in the copolymer, in order to obtain the advantages taught by Satoh, motivated by a reasonable expectation of success.

5. Claims 8-11 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satoh et al., Jenkins et al. or JP62128754, each independently in combination with Moritani et al. above, and further in view of any single one of Ninomiya (USPN 6,383,583), Akao (USPN 4,871,613) or Akao et al. (USPN 5,110,643 or 5,804,020)

Satoh et al., Jenkins et al. or JP62128754 taken with Moritani, discussed above, are deficient in not disclosing the presence of the fatty compound, i.e., ethylene-biststearamide (EBSA).

However, it is well known to include a lubricant such as EBSA in moldable polymer compositions such as saponified ethylene/vinyl acetate compositions in order to improve film moldability, slipping character, processability and the like [See Ninomiya et al. (col. 6, lines 43-56), Akao (col. 4, lines 29-32 and col. 5, lines 1-4, 21-44) or Akao et al. '643 (col. 7, lines 3-32 and col. 13, lines 12-15, 32-35 and 38-45) and Akao et al. '020 (col. 9, line 53 to col. 10, line 23, col. 14, line 15-16, 48-52)].

Amounts of 0.01 to 1 wt.% of the fatty acid amid lubricant are taught to be suitable which overlaps the range of instant claims.

Art Unit: 1713

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made, to use a lubricant such as EBSA in the compositions of Satoh et al., Jenkins et al. or JP62128754, in order to obtain the advantages taught by Ninomiya et al., Akao or Akao et al. ('643 or '020), motivated by a reasonable expectation of success.

6. Claims 12-14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Satoh et al., Jenkins et al. or JP62128754, each independently in combination with Moritani et al. above, and further in view of any single one of Iwanami et al. (JP 55012108) or Oozeki et al. (JP 57034148)

Satoh et al., Jenkins et al. or JP62128754, taken with Moritani, discussed above, are deficient in not disclosing the presence of the boric compound, i.e., boric acid.

However, it is well known to include low levels of boric acid in saponified ethylene/vinyl acetate compositions for the purpose of improving the melt viscosity for extrusion, the draw down properties and/or the impact resistance, as for instance is shown by Iwanami et al. or Oozeki et al. (See the abstracts). Amounts of boric acid to use include amounts such as are instantly claimed.

Therefore, it would have been obvious to one of ordinary skill in the art to include boric acid in the compositions of Satoh et al., Jenkins et al. or JP62128754, in order to obtain the advantages taught by Iwanami et al. or Oozeki et al., motivated by a reasonable expectation of success.

Art Unit: 1713

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Kelechi C. Egwim whose telephone number is (571) 272-1099. The examiner can normally be reached on M-T (7:30-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KELECHI C. EGWIM PH.D.
PRIMARY EXAMINER

KCE

